

Attorney Docket: 02382
U.S. Application No.: 10/699,294 Examiner: Lai Art Unit: 2157
Response to April 15, 2008 Office Action

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A system providing network topology and bandwidth management comprising:

a connection module, said connection module capable of accepting inputs and providing outputs to various types of voice and non-voice data networks;
and

a management module, said management module cooperating with the connection module to accept data from said voice and non-voice data networks for routing, the management module instructing a frequency demultiplexer to demultiplex a received multi-frequency signal into separate frequency components, the management module determining an output port in a router based on a destination address, and the management module choosing a network adapter based on the output port and on a ~~wherein said routing comprises any of frequency shifting the data and/or time shifting the data such that the data may be communicated across the voice and non-voice networks, the management module performing at least one multiplexing operation to route multi-frequency signals to appropriate termination points cooperating with the management module which are selected based on the frequency of at least one component signal of the multi-frequency signal signals.~~

2. (Previously Presented) The system as recited in claim 1, wherein the management module comprises a plurality of network adapters for use to connect to various voice and non-voice data networks.

3. (Previously Presented) The system as recited in claim 1, further comprising a control circuit, the control circuit executing one or more instructions for use to determine an origination of the data and a destination of the data.

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4. (Original) The system as recited in claim 3, wherein the control circuit selects an appropriate network adapter based on the origination and destination of the data.
5. (Original) The system as recited in claim 2, wherein the network adapters comprise any of: HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters.
6. (Previously Presented) The system as recited in claim 5, wherein the data is processed according to a type of adapter.
7. (Previously Presented) The system as recited in claim 1, further comprising a computing application, the computing application having a user interface for use in configuring the connection and management modules.
8. (Original) The system as recited in claim 1, wherein the voice data networks comprise the public switched telephone network.
9. (Original) The system as recited in claim 1, wherein the non-voice data networks comprise any of the Internet, a LAN, a WAN, and a peer-to-peer network.
10. (Original) The system as recited in claim 1, wherein the management module is capable of processing various data communication protocols comprising any of IP, Ethernet and ATM.
11. (Currently Amended) A method for the management of network topology and bandwidth comprising the steps of:

determining the source of data for communication to a termination point, the termination point having a predetermined operational signal frequency;

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separating telephony signals from digital subscriber line signals using a frequency demultiplexer;

separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

based on the termination of data and the predetermined operational signal frequency, selecting an [[the]] appropriate network topology adapter, wherein the network topology adapter comprises any of HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters;

bridging the telephony signals in the frequency crossbar to a telephony output port;

bridging the digital subscriber line signals in the frequency crossbar to a multi-frequency path associated with an output port to a modem;

sending the digital subscriber line signals from the modem to an Ethernet output port; and

communicating the data to the termination point based on the selected network topology adapter.

12. (Original) The method as recited in claim 11, further comprising routing the data using addressing information.
13. (Original) The method as recited in claim 12, further comprising configuring the adapters, wherein a computing application capable of configuring the adapters is used.
14. (Original) The method as recited in claim 11, further comprising executing at least one instruction set for use in selecting the appropriate adapter, the instruction set being executed by a control logic circuit.
15. (Original) The method as recited in claim 11, further comprising frequency and/or time shifting the data before communication to the termination point.

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16. (Currently Amended) An apparatus for the management of network topology and bandwidth comprising:

an input module, the input module having ports to receive various network couplers from various voice and non-voice data networks;

a control module, the control module having at least one instruction set for execution to determine source and destination points of data which is communicated across the apparatus to and from the various voice and non-voice data networks, the control module separating telephony signals from digital subscriber line signals using a frequency demultiplexer and separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar, the control module determining an output port in a router based on a destination address, the control module bridging the telephony signals in the frequency crossbar to a telephony output port, the control module bridging the digital subscriber line signals in the frequency crossbar to the output port in the router, and the control module choosing a network coupler based on the output port and ~~on the determination of source and destination points being performed based on~~ operational frequency ranges of the source and/or destination points; and

an output module, the output module cooperating with the control module to select ~~a an appropriate~~ network adapter for use to communicate data to ~~a the~~ destination point.

17. (Original) The appa ratus as recited in claim 16, further comprising:

a computing application interface, the computing application interface for use to communicate with at least one computing application for use in configuring the apparatus.

18. (Previously Presented) The apparatus as recited in claim 17, wherein the computing application comprises a Web browser interface.

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19. (Original) The apparatus as recited in claim 16, wherein the output module comprises a plurality of output ports for use when routing data.
20. (Original) The apparatus as recited in claim 19, wherein the output ports comprise RJ-11 type ports.
21. (Currently Amended) The apparatus as recited in claim 16, wherein the network adapter comprises adapters ~~comprise~~ any of an HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters and a power line network adapter, the appropriate network adapter being selected based on the operational frequency of the source and destination points.
22. (Currently Amended) A method for managing a network control device, the method comprising:
- accessing a graphical user interface having a topology management control and an application services gateway control;
 - activating the topology management control to execute one or more instructions to configure a network management device;
 - activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;
 - determining a source of data for communication to a termination point having a predetermined operational signal frequency;
 - separating telephony signals from digital subscriber line signals using a frequency demultiplexer;
 - separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

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bridging the telephony signals in the frequency crossbar to a telephony output port;

bridging the digital subscriber line signals in the frequency crossbar to an output port;

sending the digital subscriber line signals to an Ethernet output port; and

routing the telephony signals and the digital subscriber line signals one or more of voice information and non-voice information through the configured network management device to network adapters [[,]] wherein the routing is performed based on at least one frequency component of the telephony signals and the digital subscriber line signals one or more voice information and non-voice information networks.

23. (Original) The method of claim 22, wherein activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one or more of network addressing information, encryption information and network/bandwidth topology information.
24. (Original) The method of claim 22, wherein activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
25. (Original) The method of claim 22, wherein accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
26. (Original) The method of claim 22, wherein activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.

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27. (Currently Amended) The method of claim 22, wherein routing the telephony signals and the digital subscriber line signals ~~one or more of voice information and non-voice information through the configured network management device to network adapters~~ comprises routing network data packets to one or more of an HPNA adapter, a coaxial network adapter, an Ethernet network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.

28. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a method for managing a network control device, the method comprising:

accessing a graphical user interface having a topology management control and an application services gateway control;

activating the topology management control to execute one or more instructions to configure a network management device;

activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;

determining a source of data for communication to a termination point having a predetermined operational signal frequency;

separating telephony signals from digital subscriber line signals using a frequency demultiplexer;

separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

bridging the telephony signals in the frequency crossbar to a telephony output port;

bridging the digital subscriber line signals in the frequency crossbar to an output port;

sending the digital subscriber line signals to an Ethernet output port; and

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routing the telephony signals and the digital subscriber line signals ~~one or more of voice information and non-voice information~~ through the configured network management device to network adapters [[,]] wherein ~~the routing is performed based on at least one frequency component of the telephony signals and the digital subscriber line signals~~ one or more voice information and non-voice information networks.

29. (Currently Amended) The computer-readable medium of claim 28, wherein ~~the step of~~ activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one or more of network addressing information, encryption information and network/bandwidth topology information.
30. (Currently Amended) The computer-readable medium of claim 28, wherein ~~the step of~~ activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
31. (Currently Amended) The computer-readable medium of claim 28, wherein ~~the step of~~ accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
32. (Currently Amended) The computer-readable medium of claim 28, wherein ~~the step of~~ activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.
33. (Currently Amended) The computer-readable medium of claim 28, wherein ~~the step of~~ routing one or more of voice information and non-voice information through the configured network management device to network adapters comprises routing network data packets to one or more of an HPNA adapter, a coaxial network adapter, an Ethernet

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network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.